

REMARKS

Claims 8 to 21 are pending in this application. Claims 8 and 19 are independent. Favorable reconsideration and further examination are respectfully requested.

Claims 8 to 21 were rejected under 35 U.S.C. §103 over U.S. Patent No. 5,545,574 (Chen) in view of U.S. Patent No. 6,100,120 (Yu) and U.S. Patent No. 5,185,286 (Eguchi). As shown above, Applicants have amended the claims to define the invention with greater clarity. In view of these amendments, withdrawal of the art rejection is respectfully requested.

Both independent claim 8 and independent claim 19 have been amended to specify that a gate dielectric layer comprises a material having a dielectric constant greater than 7.8, and that the material comprises a compound having a free energy of formation that is lower than a free energy of formation of a compound that is formed between the material and a semiconductor substrate that is substantially free of silicon. As described on page 10 of the specification, one advantage of this configuration is that an atomically smooth surface is formed between the substrate and the material.

The applied art is not understood to disclose or to suggest the foregoing features of claims 8 and 19. More specifically, Chen describes use of germanium as a substrate (see, e.g., column 2, line 57). Although Applicants do not concede that this mention of germanium means that the substrate is "substantially free of silicon" as required by the claims, Applicants have nevertheless amended the claims in an effort to advance prosecution.

Applicants : Been-Yih Jin, et al.
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Yu describes use of a gate insulator with a high dielectric constant (see, e.g., column 4, lines 29 and 30). Yu, however, does not disclose or suggest use of a such a gate insulator with a substrate that is substantially free of silicon.

Accordingly, Yu, whether taken alone or in combination with Chen, could not possibly disclose or suggest using a material for the gate insulator that is compatible with a substrate that is substantially free of silicon, i.e., a compound having a free energy of formation that is lower than a free energy of formation of a compound that is formed between the material and the semiconductor substrate. Eguchi, which was cited for its alleged disclosure of contact formation, is not understood to add anything that would remedy this deficiency of Chen and Yu.

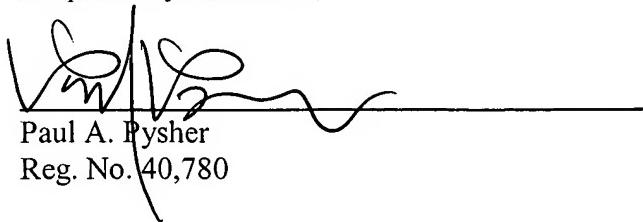
For at least the foregoing reasons, claims 8 and 19 are believed to be patentable.

In view of the foregoing amendments and remarks, the entire application is now believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney can be reached at the address shown below.

No fees are believed to be due for this Amendment; however, if any fees are due, please apply them to Deposit Account 06-1050.

Respectfully submitted,


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